



# MISSOURI. Conservationist

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# A Long and Winding Trail

As a student of the University of Missouri's School of Journalism, my dream was to write for the *Missouri Conservationist*. This magazine represented to me excellence in both mission and execution that

is the hallmark of the Missouri Department of Conservation.

As it happens, the path between that young woman's plans and where I find myself today was not a straight line. Although I started my professional career with the Department, the subsequent years found me both in the public and private sectors, typically dealing with policy issues involving conservation, environmental protection, and the outdoors.

Throughout that journey, and especially during my past six years as director of our sister agency, the Missouri Department of Natural Resources, the one re-occurring theme has been the importance of partnerships and the work of our stakeholders. Looking at the history of wildlife conservation in Missouri, there has been no success without cooperation. Some of those partnerships have been inter-governmental, some involve grassroots efforts and not-for-profit organizations.

Nowhere is the importance of those partnerships and cooperation better illustrated than in our battle against chronic wasting disease. As you're reading this, the Department is gearing up for an unprecedented, "all-hands-on-deck" opening weekend of firearms deer season. Virtually everyone in the Department, including me, will be staffing designated sampling sites in an effort to track and stop the spread of this devastating disease (find out more in Hunters, Help Us! on Page 17). Again, success here requires the participation of our deer hunters.

When others eye the Missouri conservation story, they see our non-partisan structure, our funding, our 80-year



**Sara Parker Pauley is the ninth director in the Department's 79-year history.**

history of success, but often overlook the strong support we enjoy from our stakeholders and partner agencies.

As we move forward, my focus will remain on nurturing and expanding those stakeholder relationships because without them, there is no success. As a Missourian, I, too, remain a stakeholder in this great mission of preserving Missouri's fish, forests, and wildlife.

—Sara Parker Pauley, director

## FEATURES

### 10 **Forest and Woodland Conservation**

*by Bonnie Chasteen*

Local partners sustain Missouri's diverse forests for people, plants, and animals

### Special Insert

### 2016–2017 Seedling Order Form

George O. White State Forest Nursery

### 17 **Hunters, Help Us!**

*by Bill Graham and Joe Jerek*

Sampling of harvested deer for chronic wasting disease now required in 29 counties on opening weekend of the firearms season

### 22 **Niche Fish**

*by Jim Low*

And the anglers who love them

Cover: Fall color abounds at Spring Creek Gap Conservation Area near Rolla. Photograph by David Stonner.

📷 70–200mm lens • f/6.3

1/100 sec • ISO 6400

## DEPARTMENTS

2 **Letters**

4 **Hunting & Fishing Calendar**

4 **Agent Notes**

5 **Ask MDC**

6 **News & Events**

30 **Plants & Animals**

32 **Places to Go**

33 **Discover Nature**

# WHAT IS IT?

Our photographers have been busy exploring the intricacies of outdoor Missouri. See if you can guess this month's natural wonder. The answer is revealed on Page 7.



## DOVE HUNT FOR TWO

I wanted to thank the Missouri Conservation Department and the National Wild Turkey Federation for my son's and my first dove hunt. We signed up for a mentored dove hunt after seeing the article in the August issue [News & Events, Page 6]. Jerry and Tim Schwent were great mentors to both of us. Not only has conservation gained two new apprentices, but it gave me another avenue to continue to be a proud father. Thank you MDC for helping me create memories and teaching me new skills.

Adam Bowers, Park Hills

## PROTECT AND CONSERVE

I just want to say thank you to all of the agents that work hard so that we can go out on conservation land to hunt and fish. We had turkey and deer around us tonight while hunting a managed hunt and were able to harvest a deer.

Thank you for all of your work.

Cameron Denison, via Facebook

## BLOOMING MILKWEED

I went to the Green Festival at the Butterfly House. MDC was giving out milkweed plants. This year the milkweed has been in full bloom. I have never seen so many bumble bees, honey bees, and butterflies on one flower. I even have a monarch. So my insect neighbors and I thank you for the milkweed plants.

Gary Gauss, via email

## A BIG FISH STORY

After studying Jim Low's article in the July *Conservationist* [Up a Lazy River, Page 24], it didn't take long for me to scratch the Gasconade off my bucket list. I found that my 10-foot kayak could carry enough gear for a fairly comfortable overnight trip. Unlike Jim, I did not have transportation

appear at the proper time and place, so I fished and hauled my way upstream from Anna Adams about 3 miles. I took a shorter up-and-down trip on the Osage Fork the next day. I saw an otter, an eagle, and an osprey, and I even have a big fish story. I feel fortunate to be able to handle a solo trip like this at near 67 years of age. I plan to do it again on another river. Thanks for the inspiration, Jim, and thanks to you folks at the MDC.

Jay Heselton, Nixa

## BEARS

When we moved to Colorado, my father back in Missouri made sure I would still be able to read the *Missouri Conservationist* and his granddaughter would be able to enjoy *Xplor*. We both read the article on bears in Missouri [Bear With Us; July; Page 10]. At school here in Colorado, our daughter did have a lesson on bear safety in Kindergarten, which included a list of bear safety tips she brought home. We found this and the article very useful as we get to see bears often, sometimes in our yard.

Stephen Yost, Leadville, Colorado

## FERAL HOGS

What kind of negative effect do wild hogs have on the deer population? Last year on our property in Reynolds County, we had 15 deer, included in that number were five fawns. The bucks would travel through like clockwork, and does and their babies were there every day. It was the best year I'd ever had, and I got to see lots of new interactions of wildlife. And fill our freezer.

This year we have one doe with two fawns and have seen one buck twice on camera. The difference is now we are seeing nine to 12 hogs at a time on camera. They have started rooting up the grass in one field and leaving rubs on trees around one of the watering holes.

Paul Boxdorfer, via Facebook



### Reader Photo

### A FREQUENT VISITOR

Richard Monsalvo captured this photo of a bald eagle perched in a tree near his home on Lake Sherwood near Washington. Monsalvo and his family recently moved to the lakeside community, but neighbors say the eagle has visited in the fall and winter for several years. "I work evenings and am not a super early riser," said Monsalvo. "This photo was captured because my wife woke me up at 6 a.m. and said, 'Get your camera, she's here!' As you can imagine, I was quite groggy, but she drove me around our lake and we got a few pictures of her, but this one turned out to be one of the best."

*Editors' Note: Feral hogs destroy deer habitat, run deer off, and even attack and eat fawns. For more information on feral hogs, visit [mdc.mo.gov/feralhog](http://mdc.mo.gov/feralhog). The September issue of the *Conservationist* featured an article about feral hogs — A Sounder Approach to Feral Hog Control [Page 22].*



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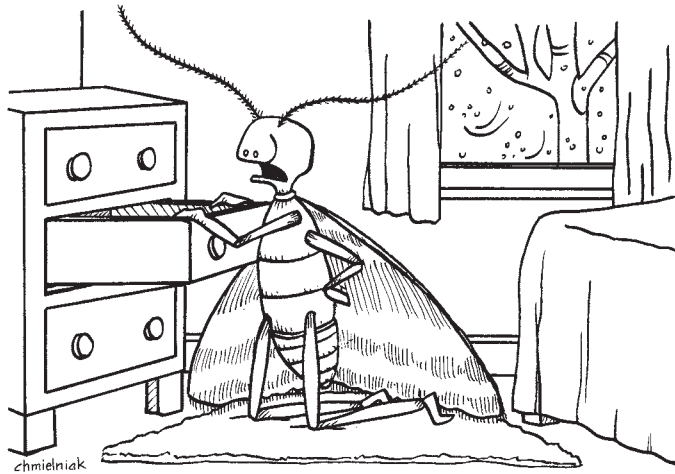
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"Rats! I ate my wool sweaters."

## Agent Notes

### First Time Deer Hunter

MISSOURI'S FIREARMS DEER season is rich in history and memories for many new hunters. Most people can remember how excited they were to go deer hunting for the first time in Missouri's beautiful outdoors.

My uncle introduced me to deer hunting when I was 13 years old, and that first deer hunt is an experience I will never forget. It was an early morning and I was asleep in a brush pile just as the sun was coming up. My uncle woke me to a four-point buck standing 25 yards in front of us. Shortly after, I was fortunate enough to harvest my first deer. My uncle and I still talk about that experience and all the memories we made that day.

Deer hunting is not always about harvesting a deer, but more about taking the time to introduce someone to the outdoors. A new hunter will always remember their first time in the field. Looking back on that morning makes me appreciate that someone took the time to familiarize me with the sport of deer hunting.

If you get the chance this November to introduce someone to deer hunting and the outdoors, please take the time to do so. You will make memories that will last a lifetime.

*Lucas McClamroch is the conservation agent for Boone County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.*



## HUNTING & FISHING CALENDAR

FISHING	OPEN	CLOSE
Black Bass		
Impounded waters and most streams north of the Missouri River	All year	None
Most streams south of the Missouri River	05/28/16	02/28/17
Nongame Fish Giggling		
Streams and Impounded Waters		
sunrise to midnight	09/15/16	01/31/17
Paddlefish on the Mississippi River	09/15/16	12/15/16
Trout Parks		
Catch-and-Release	11/11/16	02/13/17
HUNTING	OPEN	CLOSE
Coyote (restrictions apply during April, spring turkey season, and firearms deer season)	All year	None
Crow	11/01/16	03/03/17
Deer		
Archery	09/15/16	11/11/16
	11/23/16	01/15/17
Firearms		
November Portion	11/12/16	11/22/16
Late Youth Portion	11/25/16	11/27/16
Antlerless Portion (open areas only)	12/02/16	12/04/16
Alternative Methods Portion	12/24/16	01/03/17
Doves	09/01/16	11/29/16
Groundhog (woodchuck)	05/09/16	12/15/16
Pheasant		
Regular	11/01/16	01/15/17
Quail		
Regular	11/01/16	01/15/17
Rabbit	10/01/16	02/15/17
Sora and Virginia rails	09/01/16	11/09/16
Squirrel	05/28/16	02/15/17
Turkey		
Archery	09/15/16	11/11/16
	11/23/16	01/15/17
Waterfowl	see the <i>Waterfowl Hunting Digest</i> or <a href="http://short.mdc.mo.gov/ZZx">short.mdc.mo.gov/ZZx</a>	
Wilson's (common) snipe	09/01/16	12/16/16
Woodcock	10/15/16	11/28/16

TRAPPING	OPEN	CLOSE
Beaver and Nutria	11/15/16	03/31/17
Other Furbearers	11/15/16	01/31/17
Otters and Muskrats	11/15/16	02/20/17
Rabbits	11/15/16	01/31/17

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer & Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information, visit [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf) or permit vendors.

# Ask MDC

**Address:** PO Box 180, Jefferson City, MO 65102-0180  
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Bull elk at Peck Ranch Conservation Area

## My wife and I would like to see and hear the elk bugle at Peck Ranch Conservation Area. Can anyone tell me when the bulls go into rut and start calling in Missouri?

A male elk's urge to bugle coincides with the arrival of the rut. The peak bugling season is mid-September through November, but male elk continue to bugle some throughout the winter. Day length and temperature are believed to trigger the hormonal changes that prompt mating and bugling. As temperature and day length change slightly from year to year, bugling start times may vary.

The Missouri Department of Conservation offers self-guided driving tours, and maps are available online at

[short.mdc.mo.gov/ZJJ](http://short.mdc.mo.gov/ZJJ). Please be aware the facilities are closed during spring calving season, fall firearms deer season, and managed deer hunts.

## When is a good time to start harvesting pecans?

Pecans begin to ripen in early November, and they are easy to harvest — simply pick them up off the ground as they drop from the tree.

A member of the hickory family, pecans are eaten by a variety of wildlife — including larger birds, squirrels, opossums, raccoons, and deer — making harvesting them a challenge.

After harvest, pecans should be air dried in a cool, well-ventilated place for two to three weeks. Leaving them in the shell will help retain their quality, and whole nuts can be frozen for up to a year.



Common milkweed seed

## I would like to obtain some milkweed seed to plant in my garden. How do I know if the seedpods I see are ready to pick?

Although milkweed seeds can be purchased from private nurseries, you can also harvest the seeds from pods, which tend to open between late September and the end of November. If you collect the seeds too early, they may not be viable. Your best bet is to let them mature on the plant.

You'll know they are ready when the outer husk turns a golden-brown to yellowish color, or possibly a little gray. When a pod appears ready, you may test the seam. If the center pops with gentle pressure, the seeds can be harvested.

Storing the seeds in a paper bag reduces the risk of mold and mildew. However, milkweed seeds must be planted in the fall or winter to ensure exposure to the cold, moist soil conditions necessary for germination. Milkweed seeds can be planted anytime between November and the end of March, but January and February are best.

You can collect seeds on private land with the permission of the landowner. Milkweeds — both plants and seeds — can also be purchased from Missouri's many native plant dealers. Visit [GrowNative.org](http://GrowNative.org) for more information. To learn more about how to plant milkweeds, visit [short.mdc.mo.gov/ZJ3](http://short.mdc.mo.gov/ZJ3).



## A Fed Bear is a Dead Bear

Missouri's estimated 350 native black bears are preparing for their annual hibernation — and finding food is their main focus. The Department reminds everyone to be bear aware by not feeding bears and not providing potential sources of food.

"A fed bear is a dead bear," said Wildlife Management Coordinator Alan Leary. "Feeding bears makes them comfortable around people and the

places they associate with food, such as campsites, yards, and trash containers. When bears lose their fear of people by being fed, they may defend these food sources or territory. This can make them dangerous. When this happens, the bear has to be destroyed."

Leary added a fed bear that becomes a problem in one place cannot be relocated to another.

"Keep bears wild. Once a bear associates people with food, its life is ruined," Leary said. "Even if it is relocated, it will go in search of other places to get food from people, such as homes, residential areas, farms, and campsites. Common temptations include pet food or trash left outdoors, dirty grills or smokers, birdseed or other food at wildlife feeders, food at campsites, and gardens and orchards."

For more information and tips, visit **short.mdc.mo.gov/Zky**.

## Department Offices Closed Veterans Day, Phone Lines Open

Missouri Department of Conservation offices and nature centers will be closed Friday, Nov. 11, in honor of Veterans Day. Department staffed shooting ranges will be open. Permit Services staff will be answering phones to help with permit inquiries before opening weekend of the fall firearms deer hunting season. Call 573-751-4115.

## Share the Harvest

The Department encourages deer hunters to share their harvest through the state's Share the Harvest program, coordinated by the Conservation Department and the Conservation Federation of Missouri (CFM).

As part of the program, deer hunters donate their venison — from several pounds to a whole deer — to participating meat processors throughout the state who grind and package the deer meat. The packaged venison is then given to food banks and food pantries for distribution to Missourians in need.

Processing fees are covered entirely or in part by numerous local sponsors, along with statewide sponsors that include the Department, CFM, Shelter Insurance, Bass Pro Shops, Gateway Area Chapter of Safari Club International, Missouri Chapter of the National Wild Turkey Federation, Midway USA, Inc., and the Missouri Food Banks Association.

More than 4,500 deer hunters donated more than a quarter-million pounds of venison from last season's deer harvest. Since the program was started in 1992, Share the Harvest has provided more than 3.5 million pounds of lean, healthy venison to help feed hungry Missourians.

Find participating processors in the *2016 Fall Deer & Turkey Hunting Regulations and Information* booklet available where permits are sold, online at [short.mdc.mo.gov/Zoz](http://short.mdc.mo.gov/Zoz), or by calling the Conservation Department at 573-751-4115 or the Conservation Federation of Missouri at 573-634-2322.

## Hunter Education Required for Firearms Hunting Permits

The Department reminds hunters they must show proof of their Hunter Education certification number, unless exempt by age, to buy firearms hunting permits if their certification number is not already in the Department's permits system. Hunter education is required for hunters born on or after Jan. 1, 1967, and who hunt with firearms. Proof of certification from any state is acceptable.

Hunters can find their number on the front of their Missouri Conservation Heritage Card or on their temporary Hunter Education certificate.

If hunters do not have one of these, they can call the Missouri Department of Conservation's Hunter Education or Permit Services staff at 573-751-4115.

Missouri hunters and anglers also need their Conservation ID number, their Social Security number, or their driver's license number to buy hunting and fishing permits. They must also provide their date of birth. The Conservation ID number can be found on the back of your Missouri Conservation Heritage Card along the bar code or on any current or expired permit.

## Landowners Provide New Outdoor Opportunities Through MRAP

Hunters, anglers, and wildlife viewers now have access to new places to enjoy these outdoor activities through the Missouri Outdoor Recreational Access Program (MRAP). MRAP lands are privately owned properties in which the landowner has allowed public access. In return, the Department provides these landowners with annual incentive payments and habitat improvement assistance. MRAP areas are open to foot traffic only, and area users self-register at the designated parking and entry points.

Approximately 5,000 acres of private land are currently enrolled in MRAP. The Department plans to expand the program further over the next several months.



Enrolled lands range in size from a few acres to several hundred. They offer varying types of outdoor recreation. Participating landowners determine the activities that may occur on their land by selecting one of six public-access options offered by the program: 1) All Access Hunting and Fishing, 2) Small Game and Turkey Hunting,

**The Missouri Outdoor Recreational Access Program provides public hunting, fishing, and wildlife viewing on private land.**

3) Youth-Only Hunting and Fishing, 4) Archery Hunting, 5) Fishing, and 6) Wildlife Viewing Only.

To promote quality outdoor experiences, all offered land must meet minimum wildlife habitat requirements. Extra incentives are available to landowners who agree to implement habitat improvement practices on their property. Annual payment rates vary, but most landowners earn \$20–\$25 per acre each year they participate.

Find maps of enrolled MRAP properties, public access rules and procedures, and enrollment information for landowners at [mdc.mo.gov/mrap](http://mdc.mo.gov/mrap).



## WHAT IS IT?

### Mallard | *Anas platyrhynchos*

Mallard ducks are common statewide and found on lakes, rivers, ponds, and marshes, where they forage for seeds, grass, aquatic vegetation, and invertebrates. Considered the most common dabbling ducks or puddle ducks, you may often see them with their head underwater and tail up in the air. Adult male mallards are easily identified by their green head, while females are brownish with an orange bill and dark saddle markings. The two form pairs in the fall, and females lay eggs in nests along lakeshores and in marshes in early spring. The clutches are comprised of one to 13 eggs, which are incubated in 23–30 days. The newly hatched chicks can follow their mother within a day and will grow to be 23 inches from bill to tail. These transient birds are common in the winter months when most other waterfowl have migrated farther south. Listen for the female's descending quacking sound and various softer *hey-hey-heys*. The male doesn't quack, opting for a loud *graeb-graeb* or a whistle instead. —*photograph by Noppadol Paothong*

## Meet a Migrator: Northern Pintail

This aptly named, long-necked beauty (*Anas acuta*) can be found on Missouri wetlands during migration and throughout the winter. The male pintail's characteristic long, pointed tail and the bird's long, thin neck are good identifying features. The male's striking plumage of brown and black with a white neck that extends into a white stripe up the side of the male's head make this bird a treat to see and easy to identify from afar. Females are duller overall, but look for the long neck, pointed tail, and a light brown head with no markings.

Pintails are dabbling ducks, which means they filter-feed off of the water's surface or feed from the wetland bottom by tipping upside down. They are common, and their year-round range covers most of the U.S. This worldly duck also breeds across northern Europe and Asia, and overwinters in the southern half of the U.S. through Central America, across southern Europe, and in tropical areas such as India, central Africa, and the Philippines.

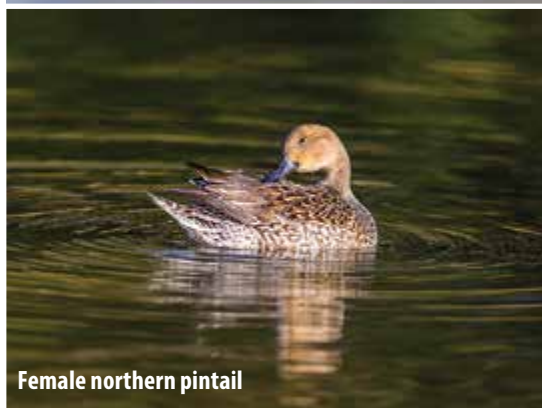
## Celebrating Migratory Birds

This year has marked the centennial of the Migratory Bird Treaty signed in 1916 by the United States and Great Britain (for Canada). This treaty and three other similar ones with Mexico, Russia, and Japan form the cornerstones of migratory bird conservation across international borders.

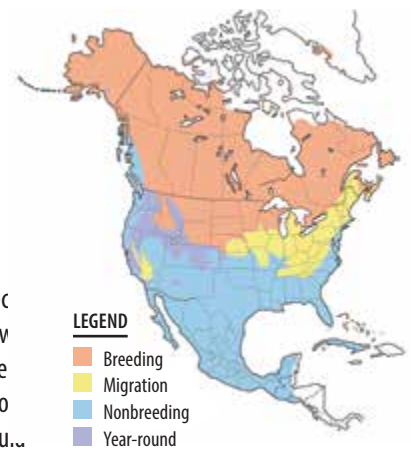
After 100 years of market hunting and unregulated use of migratory birds for their meat, feathers, and eggs, many bird populations had plummeted by the early 20th century. The federal government took action to stop further losses by signing the Migratory Bird Treaty. It prohibits hunting, killing, capturing, possession, sale, transportation, and exportation of birds, eggs, feathers, and nests. Hunting seasons for specific species such as pintails were added later to help maintain healthy bird populations.



Male northern pintail



Female northern pintail



The treaty not only protects wide-ranging migratory waterfowl such as the Northern Pintail, it also enhances our lives by ensuring that populations of diverse, beautiful birds remain for generations to come. For more on the Migratory Bird Treaty Centennial, visit [fws.gov/birds/MBTreaty100](https://fws.gov/birds/MBTreaty100).

**Did you know?** The Department manages various types of habitats around the state, such as wetlands, grasslands, and forests for a wide variety of migratory birds as they fly along their annual migration routes. Find *Places to Go* online at [short.mdc.mo.gov/Z4N](https://short.mdc.mo.gov/Z4N) for birdwatching, nature viewing, and other outdoor activities.



## Waterfowl Digest Available

Get details on waterfowl seasons by species, daily and possession limits, hunting zones and managed waterfowl-hunting areas, regulations, permits, duck and goose identification images, and more from the Department's *2016–2017 Waterfowl Hunting Digest*, available where permits are sold and online at [short.mdc.mo.gov/ZoD](http://short.mdc.mo.gov/ZoD).

## Give the Gift of Conservation this Holiday Season

The Department's online Nature Shop makes holiday shopping a breeze for anyone interested in nature-themed gifts. Visit [mdcnatureshop.com](http://mdcnatureshop.com) for all your shopping needs.

Holiday shoppers can also skip retail stores and visit one of our nature centers in Kirkwood, Cape Girardeau, Springfield, Kansas City, Blue Springs, and Jefferson City for a surprising array of reasonably priced holiday gifts.

One of the most popular holiday gifts is our annual *Natural Events Calendar*. With 12 months of stunning photos and daily notes about a wide variety of wild happenings, it's the gift that keeps on giving throughout the year. Get it from the online Nature Shop or at our nature centers and regional offices.

Conservation makes Missouri a great place to hunt and fish so give the gift of hunting and fishing permits. Buy Missouri hunting and fishing permits from numerous vendors around the state, online at [mdc.mo.gov/buypermits](http://mdc.mo.gov/buypermits), or through the Conservation Department's free mobile apps, MO Hunting and MO Fishing, available for download through Google Play for Android devices or the App Store for Apple devices.



TROUT FISHING: DAVID STONNER

## DID YOU KNOW?

*Conservation makes Missouri a great place to fish.*

### Winter Trout Fishing

» **Enjoy great trout fishing** around the state, throughout the year. Browse links to all Department trout area locations at [short.mdc.mo.gov/Zou](http://short.mdc.mo.gov/Zou).


» **The winter catch-and-release fishing season** at Missouri's four trout parks is a good time to learn how to catch trout on a fly. Sharpen your skills at Bennett Spring State Park, Lebanon; Marmamec Spring Park, St. James; Montauk State Park, Salem; and Roaring River State Park, Cassville. A Missouri fishing permit and trout permit are required to fish the trout park winter catch-and-release season.

» **Trout are stocked** in 32 winter trout fishing areas — mostly in or near urban areas — beginning in early November. Many of these areas allow anglers to harvest trout as soon as they are stocked, while other areas are catch-and-release until Feb. 1. The daily limit at these locations is four trout with no length limit. A Missouri fishing permit is required, and a trout permit also is required if you plan to keep your catch.

» **Missouri hatcheries and trout parks** not only support our state's great fishing, they're also fascinating places to visit. Trout hatcheries are located at each of Missouri's four trout parks and on Lake Taneycomo. They provide high-quality trout fishing on cold-water streams in Missouri. Learn more about Department hatcheries at [short.mdc.mo.gov/ZoL](http://short.mdc.mo.gov/ZoL).







# Forest and Woodland Conservation

**Local partners sustain Missouri's  
diverse forests for people,  
plants, and animals**

**BY BONNIE CHASTEEN**

**W**HISPER THE WORD FOREST, AND WHAT COMES TO MIND? A GROVE of mighty oaks? The scent of pine on a frosty morning?

Warren County landowners Barry and Bruce Paschall might say it's the memory of the ruffed grouse's drumming in a place their family called "the hole."

"It was probably the '80s the last time we heard it," Barry says.

The Paschall brothers are working with Daniel Boone Conservation Area (CA) managers Jeff Bakameyer and Lafe Schweissguth to bring the grouse's spring mating ritual back to this Missouri River Hills area, which is a mix of oak-hickory forest and woodland. They are just one of the many local conservation partnerships working to make sure future Missourians have plenty of chances to enjoy and wisely use our state's diverse forests and woodlands — and the plants, fish, and wildlife that depend on them.

# Habitat HEROES



Barry and Suzanne Paschall work with Department foresters to improve the Paschall family's forested land adjoining the Daniel Boone CA.

## Bringing Back the Grouse's Drumming

Years ago, Barry and Bruce's grandfather sold a parcel of the family's original forest to the Department. That sale increased the Daniel Boone CA's size and habitat value. Barry and Bruce inherited the remaining acres, and they manage their adjoining parcels together.

For the last five years, the brothers have been working with Bakameyer and Schweissguth to improve the family's wooded acres.

"MDC kept asking me for permission to cross my land," Barry says. "That's how I got interested in doing my own timber stand improvement and temporary forest opening cuts."

Following the same treatments Bakameyer and Schweissguth are applying to the adjoining conservation area, they are selectively cutting diseased, damaged, poor quality, or otherwise overcrowded and over-mature trees to open up the dense canopy. This allows light to the forest floor so young trees, shrubs, and wildflowers can grow and provide the cover many kinds of wildlife require or benefit from. Ruffed grouse, in particular, need this type of renewed forest cover to nest, escape predators, and raise their young.

"Grouse prefer young forests," Bakameyer said. "Ones with 5- to 15-year-old trees are perfect."

Young forest habitat provides adequate canopy to shield grouse from hawks and other birds of prey. But

this kind of habitat is declining and has been for quite some time.

*Declining* can mean overgrowth of mature trees, creating the kind of closed canopy associated with undisturbed forests. The Paschalls recently took a piece of land and created a temporary forest opening. The resulting scene — mostly stumps, weeds, open sky, and a few remaining trees — would challenge most viewers' expectation of what a forest should look like.

"The first year after this type of treatment can look kind of rough," Bakameyer admits. "You see stumps and a burst of weedy growth, along with small trees, shrubs, and other woody species that are just starting their life."

Compare that scene to a parcel that has had a year to regrow. The low undergrowth of wildflowers and vines is fairly thick in places, and a scattering of woodland shrubs rises above it. Higher still is an open canopy of trees that admits broad channels of light. The scene looks healthy and vibrant.

It looks even better to some types of wildlife, which depend on periodic disturbance like tree harvesting and controlled burning to maintain the habitat they need. "Think of it as home renovation," Bakameyer said. "A few months of uncomfortable remodeling can improve your living space for years to come. It can do the same thing for wildlife."

Have the grouse returned to their renovated home? Not

yet. But the Paschalls and their conservation area allies are still working, watching, and listening for their arrival.

### **Forest and Woodland Habitat Systems**

Forests and woodlands can occur together, but they are different. Forests occur on higher quality sites and form a closed canopy, often comprised of several overlapping layers. The midstory and understory contain a variety of shade-tolerant shrubs and a sparse layer of soft-stemmed plants. Woodlands are located on poorer sites for growing trees and have a more open canopy, and their sparse woody midstory allows more sunlight to penetrate to the ground. This in turn produces a dense ground cover containing a variety of wildflowers, grasses, and sedges. Periodic disturbance, such as fire and mechanical thinning of trees, plays a large role in the restoration and maintenance of woodland habitat systems.

In both forests and woodlands, highly variable factors such as soil, temperature, topography, slope, and availability of moisture give rise to a wide range of plant communities. This diversity of plant types and structures provides abundant nesting, cover, and foraging sites to meet the needs of many kinds of wildlife. Generalist species like the black bear, sharp-shinned hawk, and Diana fritillary butterfly can be found throughout the matrix of forest and woodland systems. Other species, such as the Indiana bat, Ozark zigzag salamander, and Swainson's warbler have very particular nesting or foraging requirements, only offered by specific forest or woodland

elements. Healthy forests and woodlands retain soil, absorb nutrients, slow runoff, and allow for water infiltration, so many of Missouri's fish and other aquatic species are dependent upon forests and woodlands as well.

Generally speaking, Missouri has seven different kinds of forests and woodlands, each with its own plant and animal communities. See the sidebar on Page 16 for a map showing where they historically occurred.

### **Restoring Spring Creek Watershed's Glaciated Woodlands**

The state's best example of prairie-savanna-woodland habitat is the Spring Creek Watershed, located in Adair, Putnam, and Sullivan counties. As the name suggests, a prairie-savanna-woodland habitat complex features native grasslands mixed with swaths of open oak-hickory canopies and a scattering of native shrubs and wildflowers underneath. At 8,262 acres, Union Ridge CA forms the core of the watershed's woodland habitat.

Mark Williams owns 830 acres that lie near Union Ridge CA in Sullivan County. He explains how prairie, savanna, and woodlands can decline, especially on private land. "Like many forest owners, I thought as long

**The glaciated woodlands of Union Ridge CA play a central role in the Spring Creek Watershed, protecting nearly 32 miles of prairie stream, which benefits the Topeka Shiner and seven species of freshwater mussels.**



as the forest stays the way it is, it's good. But I had so much brush, and all my trees were even-aged. I watched my turkey and deer populations drop — I didn't have a good mix of habitat."

Then Williams got to work with Private Land Conservationist John Murphy and has been continuously improving his timber stand with selective thinning and prescribed fire.

"I've been doing the whole thing," Williams says. "Fencing out the cattle. Hand-spraying noxious weeds. Now the turkey hunting is phenomenal — as good as it was in the '90s."

Williams is excited about restoring his savanna and woodlands, and he works with Murphy to conduct habitat management workshops for other landowners on his property. "I will continue this work as long as I live," he said.

Murphy said this geography has some of the "most widely spread and rich habitats I have ever seen." He said that often these quality habitats are degraded from invasive species, woody plant overcrowding, or lack of disturbance.

Other conservation partners working within the Spring Creek Watershed Priority Geography include, but are not limited to, many additional private landowners,

**In July, Andrew Kinslow reported banding a blue-winged warbler. "We've never observed this species on the farm except during migration. This second-year male in breeding condition provides further evidence of how fencing and native warm-season grass restoration is attracting new species."**



the Farm Service Agency, Missouri Conservation Heritage Foundation, Missouri Department of Natural Resources, Missouri Prairie Foundation, National Wild Turkey Federation, Natural Resources Conservation Service, Quail Forever, Soil and Water Conservation District (Adair, Putnam, and Sullivan counties), Truman State University, and the U.S. Fish and Wildlife Service.

## **Fencing to Improve Woodland Wildlife Habitat**

Father-and-son duo Gene and Andrew Kinslow run a cow-calf beef operation on their adjoining properties in Webster County. An avid birder since boyhood, the younger Kinslow started surveying songbirds on their property's oak-hickory woodlands in 1994. In 2005, the Kinslows worked with Private Land Conservationist Matt Curry to build a fence to exclude livestock from 200 acres of woodland. Their goal was to improve habitat for songbirds and other wildlife.

"The big change I see is in the ground and understory layers," Andrew Kinslow said. "In the past, you could kneel down and basically see all the way through the woodlands due to the browse line. This has filled in surprisingly fast and is prime habitat for fledgling feeding and shelter."

His survey results prove it. On-farm banding efforts rarely caught the ground-nesting Kentucky warbler before 2005. Since the Kinslows began fencing the woodlands, clearing glades, and planting native warm-season grasses, they have seen yearly increases in Kentucky warbler numbers, and now it is one of the top five captures at the farm's banding station. Other regularly returning migratory warbler species that breed in the improved habitat include worm-eating warbler, black-and-white warbler, ovenbird, white-eyed vireo, Acadian flycatcher, wood thrush, and Louisiana water thrush.

Curry says that some managers debate whether a fence should be considered a wildlife habitat project, and he adds that the Kinslows have done a limited amount of true habitat manipulation. "But the excluded area on their land has evolved into high quality wildlife habitat," he said.

All around the Show-Me State, landowners like Barry and Bruce Paschall, Mark Williams, and Gene and Andrew Kinslow are hard at work with their natural resource management agency and nonprofit partners to make sure Missouri forest and woodland communities survive and thrive for future generations. ▲

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*Associate editor for the Missouri Conservationist, Bonnie Chasteen grew up near the Cradle of Forestry in western North Carolina. She enjoys hiking in forests and woodlands of all types.*

## What We're Doing

### Missouri Ozark Forest Ecosystem Project (MOFEP)

This multi-agency project is one of the most comprehensive ecological investigations of forest response undertaken in upland oak ecosystems. Initiated in 1991 and slated to run at least 100 years, the project has already yielded valuable data on forest management. A long-term, top-to-bottom study of the Ozark forest resource, MOFEP provides the foundation to decide the best ways to satisfy demands for wood products while ensuring the survival of healthy forest ecosystems. Learn more at [short.mdc.mo.gov/ZZV](http://short.mdc.mo.gov/ZZV).

### Partners Protecting Forest Health

The Missouri Invasive Forest Pest Council coordinates responses to invasive forest insect and disease pests. Using limited-impact tools such as early detection, monitoring, and outreach, they encourage managers to recognize and interrupt invasive pest threats before they can damage forest health and economics.

### Forest and Woodland Management Plans

To ensure that forested land conservation doesn't stop at the borders of public lands, the Missouri Department of Conservation and its conservation partners build relationships with private landowners. Through these relationships, experienced foresters write management plans and provide assistance to landowners in completing on-the-ground activities.

DAVID STONNER



MOFEP botany crew members Dustin Cramer and Susan Farrington identify plants in a 1-square-meter frame to study the effect of timber harvest management on the plant community.

### Spring Creek Gap Conservation Area



NOPPADOL PACTHONG

## Explore and Learn More

Visit conservation areas with forests and woodlands near you or around the state. Find listings and directions at [mdc.mo.gov/atlas](http://mdc.mo.gov/atlas). Learn more about forest and woodland habitat and the plants and animals that call them home at [short.mdc.mo.gov/ZJc](http://short.mdc.mo.gov/ZJc).

## What You Can Do

### Manage Your Wooded Acres For Diversity and Profit

If you don't already have a long-term forest management plan, call your Missouri Department of Conservation regional office (find the number on Page 3). Staff can put you in touch with your county's consulting forester and help you get started.

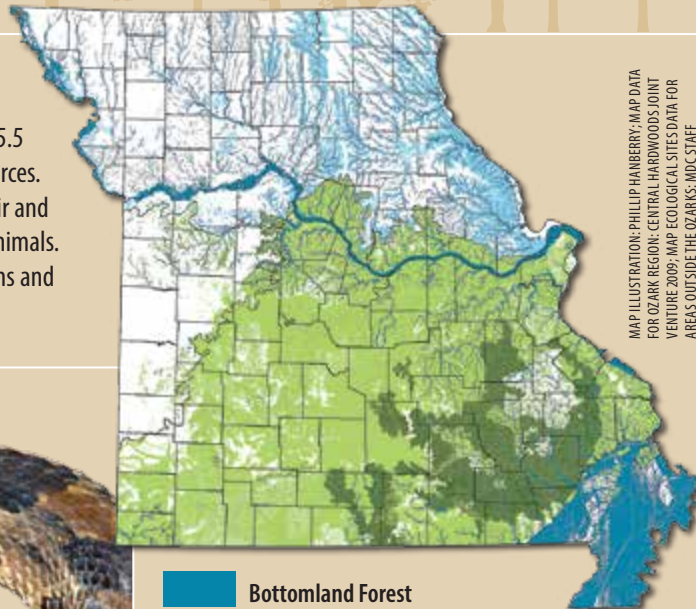
### Become a Forestkeeper

The Missouri Forestkeepers Network is a volunteer-based forest health monitoring program. Learn more at [forestkeepers.org/about-forestkeepers](http://forestkeepers.org/about-forestkeepers).

# Forests and Woodlands

## A Treasure Chest of Ecological, Economic, and Social Wealth

Wooded lands currently make up just over one-third of Missouri's area. Totalling 15.5 million acres, it's not hard to see why they are among our state's most valuable resources. Essential to our quality of life, large tracts of forest and woodland provide clean air and water, and they are home to some of our state's rarest and most iconic plants and animals. Additionally, the forest products industry provides jobs to thousands of Missourians and contributes billions of dollars to our economy every year.



MAP ILLUSTRATION: PHILLIP HANBERRY; MAP DATA FOR OZARK REGION: CENTRAL HARDWOODS JOINT VENTURE 2009; MAP ECOLOGICAL SITES DATA FOR AREAS OUTSIDE THE OZARKS: MDC STAFF

## Plants and Animals of Greatest Conservation Need



- Bottomland Forest
- Glaciated Hardwood Forest and Woodland
- Ozark Hardwood Forest and Woodland
- Ozark Oak-Pine and Pine Forest and Woodland

This map shows the **historic range** of **Missouri's** seven general types of **forests and woodlands**.



NUTTALL OAK: WATER OAK; TIMBER RATTLESNAKE; ROSE TURTLEHEAD; PICKEREL FROG: JIM RATHER; PROTHONOTARY WARBLER; BLACK BEAR: NOPPADOL PAOTHONG; OZARK WAKE ROBIN: MDC STAFF

# HUNTERS, HELP US!



**SAMPLING OF  
HARVESTED DEER FOR  
CHRONIC WASTING  
DISEASE NOW REQUIRED  
IN 29 COUNTIES ON  
OPENING WEEKEND OF  
THE FIREARMS SEASON**

**BY BILL GRAHAM  
AND JOE JEREK**

**D**EER HUNTING IS A TREASURED tradition in Missouri, valued by families and friends afield, and a boon to motels, cafes, sporting goods stores, and many other businesses across the state. The Missouri Department of Conservation, in partnership with hunters, landowners, and businesses, will protect that tradition Nov. 12 and 13, opening weekend of fall firearms deer season, as staff test harvested deer. This effort harkens back to the days of check stations where, until 2005, hunters presented their harvest to Department staff.

New this year, the Department is requiring hunters in a 29-county region, known as the CWD Management Zone, to bring their harvested deer to sampling sites for testing for chronic wasting disease (CWD). The goal is to limit the deadly degenerative brain disease, currently found in a few areas of northeast, central, and east-central Missouri. Nearly 1,000 Department employees will be staffing 75 sampling sites in these counties at businesses, conservation areas, on private land, and other locations.

“Early detection of chronic wasting disease is critical because once the disease is well established in an area, it is impossible to eradicate,” said Jason Sumners, wildlife division chief for the Conservation Department. “Increased testing in and around areas where the disease has been found will greatly improve our ability to find cases early and limit its spread to more deer in more areas.”

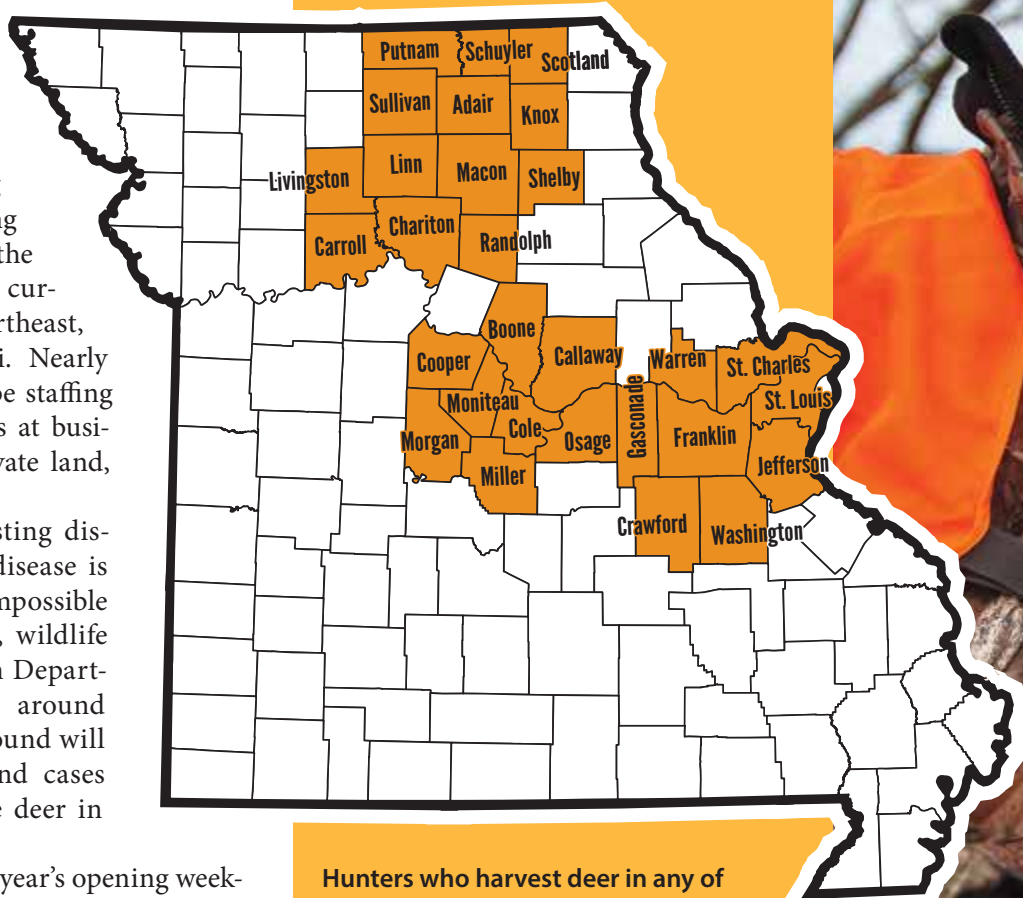
Mandatory sampling during this year’s opening weekend of the fall firearms season will place a comprehensive focus on counties within approximately 25 miles of CWD detection sites. The Department started testing sick and suspect deer for CWD in 2001. The first case in Missouri was found in 2011. Voluntary sampling was increased in following years in counties where new cases arose. This year’s sampling in the CWD Management Zone is a strategic effort to halt the disease.

“Firearms opening weekend is the most popular hunting time for most deer hunters,” Sumners said. “Focusing our efforts on this key weekend gives us the best opportunity to collect the most tissue samples during a very concentrated time period.”

### Science-Based Disease Management

The Department bases deer management on both sound science and benefits for people, including Missouri’s 520,000 deer hunters and 2 million wildlife watchers. Science is based on data. Mandatory sampling in the 29-county region may provide up to 20,000 samples, enough for an accurate gauge of how widespread CWD is in the region. This will guide future deer-management decisions.

“We want our kids and grandkids to grow up being able to hunt and watch a healthy and strong deer population,” Sumners said. “Chronic wasting disease threatens



Hunters who harvest deer in any of the 29 counties of the state’s CWD Management Zone (orange counties) during the opening weekend of the fall firearms season (Nov. 12 and 13) must present their harvested deer for sampling at one of 75 locations.

that. The simplest thing deer hunters can do to help protect our state’s white-tailed deer is to get their harvested deer tested.”

CWD testing involves Department staff cutting an incision across the throat of a harvested deer to remove its lymph nodes. The process takes only a few minutes. The tissue samples are then sent to an independent laboratory that specializes in animal-disease testing. It takes several weeks for the Department to receive the test results, which hunters can access online at [mdc.mo.gov/CWD](http://mdc.mo.gov/CWD).

“Hunters bringing nice bucks should know we will make accommodations to ensure the cape is maintained in a manner that does not jeopardize the taxidermy value,” said Danny Hartwig, incident commander of the Department’s mandatory CWD sampling efforts.

Department staff will greet hunters at testing sites and



**“We want our kids and grandkids to grow up being able to hunt and watch a healthy and strong deer population. Chronic wasting disease threatens that.”** — Missouri Department of Conservation Wildlife Division Chief Jason Sumners

explain the process and the program. Hunters will be asked to identify the location within the county the deer was harvested.

“It should take under five minutes to take the sample and gather the appropriate information,” Hartwig said. “Staff has been trained, and our goal is to make this as quick as possible for hunters.”

Sampling stations will be open from 7:30 a.m. to at least 8 p.m. on both days. Hunters can either bring the entire deer or present just the head with 6 inches of the neck in place.

While presenting deer for testing is mandatory during firearms opening weekend, staff will be available to remove tissue samples from deer harvested in the CWD Management Zone throughout the season. Hunters can contact their regional Conservation Department office for voluntary testing information.

### **CWD is Challenging**

Department biologists chose the 29 counties for the mandatory sampling zone because all or a portion of each county fell within 25 miles of a detection site. Some harvested deer will come from a portion of a county beyond that 25-mile circle, but thoroughness is guiding the process.

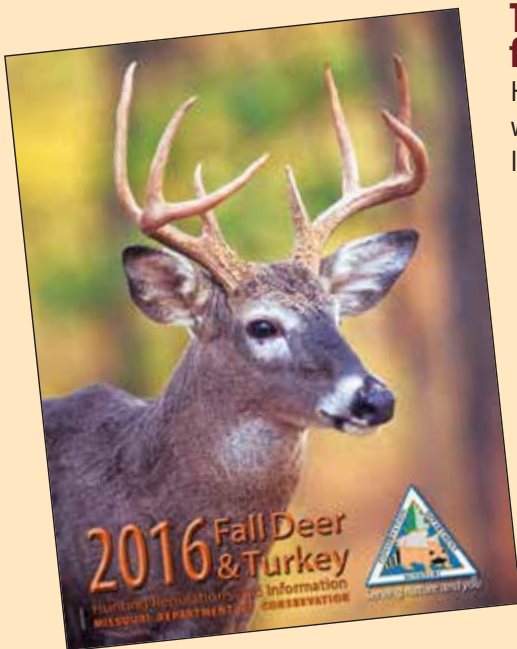
“We selected a 25-mile radius around a CWD detection site because that is generally the greatest distance a young buck will move,” Sumners said.

Chronic wasting disease is difficult to battle because deer are wild animals on the move, and the causes and transmission methods for the disease are still being studied. Research indicates the disease is caused by misshapen protein, called a prion. Scientists are conducting research on the ways the disease is transmitted. CWD is a brain disease that infects only deer and other members



This deer shows signs of chronic wasting disease. Symptoms, which can take more than a year to show, can include a lack of coordination and paralysis, excessive salivation, difficulty swallowing, unusual behavior such as not being wary of people, and emaciation. The Department encourages people to report deer with these symptoms to local conservation agents or offices.

For a list of the 75 sampling locations, visit [mdc.mo.gov/CWD](http://mdc.mo.gov/CWD) or check out the 2016 Fall Deer & Turkey Hunting Regulations and Information booklet at Department regional offices or wherever permits are sold.



### Time-Saving Tips for Testing

Hunters can help reduce their wait times at CWD sampling locations by:

- » Telechecking their deer before going to a sampling location,
- » Having their completed permit information ready,
- » Being prepared to locate their harvest location on a map,
- » Positioning their deer in the vehicle so the head is easily accessible for staff to take tissue samples from the neck, or
- » Having the detached head and neck ready.

of the deer family, called “cervids.” The disease has no vaccine or cure and is 100 percent fatal to all cervids it infects. There have been no documented cases that the disease infects people.

The Department has been conducting state-wide CWD surveillance of free-ranging deer since 2002. The disease was first detected in Missouri in 11 captive deer in 2011 and 2012 in Macon and Linn counties. The Conservation Department has confirmed a total of 33 free-ranging deer with CWD since then with 21 in Macon County, nine in Adair, one in Cole, one in Franklin, and one in Linn.

“In the Department’s 79-year history, never before has a situation required as much time and dedication from staff,” Hartwig said. “The monumental opening-weekend sampling effort this November would not be possible without the cooperation of deer hunters, local landowners, private businesses, and other partners who have opened up their places to the Department. We greatly appreciate their help!” ▲

*Bill Graham is a media specialist for the Kansas City and Northwest regions who lives near Platte City. He’s a lifelong hunter, angler, and camper who also greatly enjoys hiking and photography. Joe Jerek is a statewide news services coordinator who lives in Jefferson City. He enjoys discovering nature through camping, hiking, landscaping, and other outdoor activities.*

## Hunter Help Also Needed in Southwest Missouri

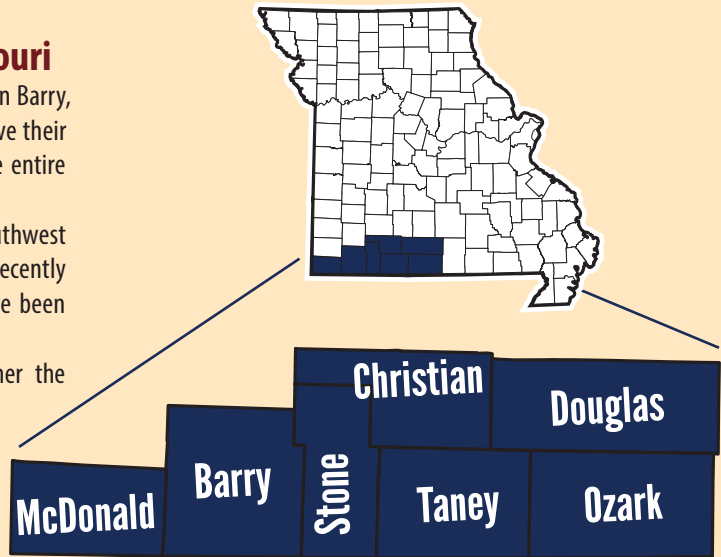
The Conservation Department encourages hunters who harvest deer in Barry, Christian, Douglas, McDonald, Ozark, Stone, and Taney counties to have their animals tested for CWD. The free testing is available throughout the entire deer season, and hunters can access the results online.

The Department is increasing CWD testing in these seven southwest Missouri counties in response to more than 100 cases of the disease recently found in deer and elk in northwest Arkansas. No cases of CWD have been found in southern Missouri.

Hunters can take their harvested deer for CWD testing to either the Department's Ozark Regional Office in West Plains or the Southwest Regional Office in Springfield. Testing can be done during regular business hours, 8 a.m. to 5 p.m. Monday–Friday.

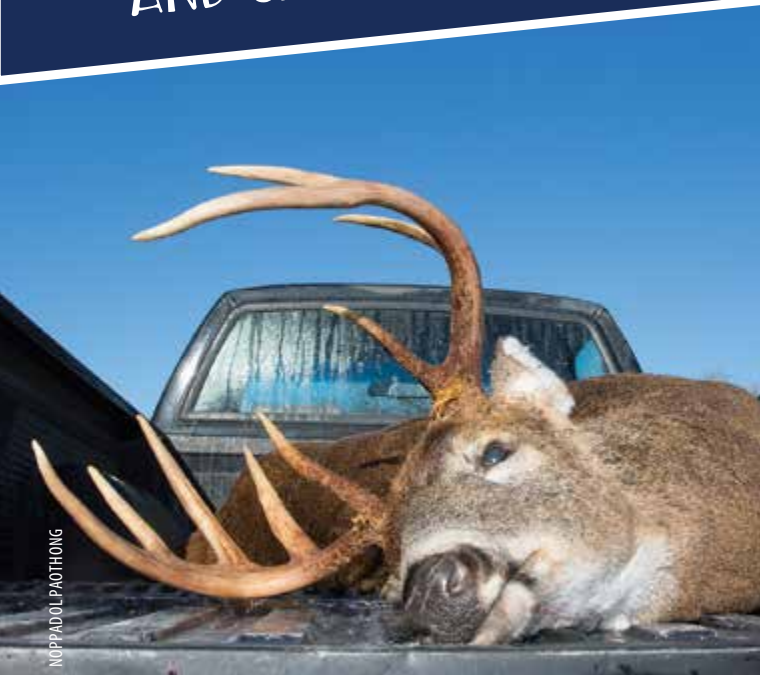
The Department is also working with taxidermists and meat processors in the area to have testing available at those locations. Call the Southwest Regional Office at 417-895-6880 or the Ozark Regional Office at 417-256-7161 for testing locations and other details or visit [mdc.mo.gov/CWD](http://mdc.mo.gov/CWD).

The Department will continue to test road-killed and sick-looking deer in the region. The Department encourages people to report deer that appear sick to their local Department office or conservation agent.



The Conservation Department encourages hunters who harvest deer in Barry, Christian, Douglas, McDonald, Ozark, Stone, and Taney counties to have their animals tested for CWD. The free testing is happening throughout the entire deer season.

FOR MORE INFORMATION ON CHRONIC WASTING DISEASE AND SAMPLING SITE LOCATIONS, VISIT [MDC.MO.GOV/CWD](http://MDC.MO.GOV/CWD)



NOOPADOL PAOTHONG

## Out of State Harvests

The Department reminds hunters who harvest deer, elk, or moose outside of Missouri that they must report the animal's entry into the state within 24 hours by calling 877-853-5665 or reporting it online at [mdc.mo.gov/carcass](http://mdc.mo.gov/carcass). Reporting is required by law. The carcass must be taken to a licensed meat processor or taxidermist within 72 hours of entry.

The reporting requirement is only for whole carcasses and carcasses that have the head and spinal column attached. Parts that do not require reporting and are at lower risk for harboring CWD include meat that is cut and wrapped, boned-out-meat, quarters or other portions of meat with no parts of the spine or head attached, hides or capes from which excess tissue has been removed, and antlers, including those attached to skull plates or skulls where all muscle and brain tissue has been removed.


Hunters just passing through Missouri on their way to another state are exempt from this requirement as long as they are not in Missouri for longer than 24 hours.

For more information on chronic wasting disease, visit [mdc.mo.gov/CWD](http://mdc.mo.gov/CWD).



# niche FISH

JIM LOW

A photograph of a man sitting on a rocky riverbank, fishing. The river is calm, reflecting the surrounding dense green forest. The man is wearing a dark jacket and blue jeans. The background is filled with lush green trees and foliage. The foreground shows some fallen branches and roots extending into the water.

## And the anglers who love them

**BY JIM LOW**



**RECORD FISH:** River redhorse  
**WEIGHT:** 9 lbs, 13 oz  
**LAKE/STREAM:** Tavern Creek  
**DATE:** 4/15/16

After landing the state-record river redhorse, Dan Schmitz returned to Tavern Creek to reel in more hard-fighting nongame fish.



AN SCHMITZ WATCHED THE TIP OF HIS fishing pole jiggle over Tavern Creek's silty water in Miller County. He waited until the jiggles became insistent tugs, then tightened the line and hauled back on his rod, hooking the unseen fish.

"It feels like a good one," he said. When the fish surfaced, he said, "It's a carp." I sensed a little regret, but only a little. The fish had given him a good fight. For a moment it also had given him hope that he might have hooked a new state-record river redhorse.

On that mid-May morning, Schmitz already held the pole-and-line record for a 9-pound, 13-ounce redhorse he caught from the same deep eddy a month earlier. But that catch had heightened his interest in this "niche fish."

## Getting Hooked is Easy

These nongame fish — suckers, shad, herring, drum, and carp — are exclusive in a way because few anglers pursue them. Schmitz targets niche fish, but more often than not, people catch these fish by accident while angling for more popular game species. The first Missouri fishing record of 2016 is a good example.

On Jan. 8, Shane Doherty of Ft. Scott, Kansas, crossed the state line to fish for crappie in a strip mine pit in Vernon County. He was retrieving a pink jighead with a white plastic body when he felt a tug on his 4-pound-test line.

"When I first saw it, I thought I had a big crappie," Doherty recalls, "but then I got a good look, and it was huge!"

It turned out to be a gizzard shad, and it was huge for its species — 2 pounds, 2 ounces, and nearly 20 inches long.

Or take the case of Brent Newton, Holts Summit. He and his son were bouncing worms along the bottom of the Osage River downstream from Bagnell Dam on March 5, 2016, hoping to catch a mess of catfish for supper. He hooked what he initially thought was a bass, but then he got it in the boat.

“It looked like a shad, but my son used his phone to look it up, and we decided it was a skip-jack herring. It was big enough that it might have been a record, so he sent a photo of it to the Conservation Department. They said it was a goldeye. I never even heard of that. When we took it in to be weighed, it was 2 pounds — a record.”

Clearly, you don’t have to be an expert to catch niche fish. You don’t even have to try. Imagine what you might be able to catch if you did.

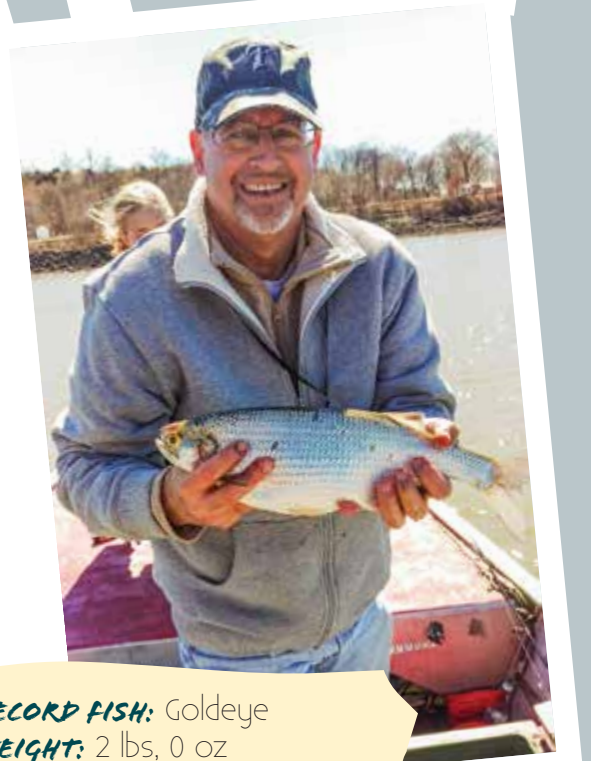
## What Are Niche Fish?

For this article, let’s focus on suckers, carp, herrings, moon-eyes, and drum. These groups include dozens of species. Even within a group, such as carp, various species’ habits and the techniques used to catch them differ considerably. We can’t possibly cover all of them here, but the following information will help you get started taking them with pole and line, gear you most likely already have.

### Angling for a Record

Because niche fish receive so little attention, many records are not very big. Others have never been entered. Consequently, these species are ripe for record-setting. Take a picture of a possible record fish and send it to the nearest Conservation Department office for identification. Current record weights are available on the Fishing Records Page at [short.mdc.mo.gov/Zk9](http://short.mdc.mo.gov/Zk9). If your fish seems big enough to qualify, contact the local conservation agent or call a Conservation Department regional office and arrange to have your fish officially weighed. Keep it in cool, well-aerated water or put it on ice to minimize weight loss.

**RECORD FISH:** Gizzard shad  
**WEIGHT:** 2 lbs, 2 oz  
**LAKE/STREAM:** Private strip pit  
**DATE:** 1/08/16



**RECORD FISH:** Goldeye  
**WEIGHT:** 2 lbs, 0 oz  
**LAKE/STREAM:** Osage River  
**DATE:** 3/18/16

## SUCKERS

This group includes the quillback, redhorses, and buffalo fishes. Suckers are easiest to catch in early spring during annual spawning runs when large numbers congregate in shallow, gravel-bottomed areas with some current. You can continue to catch suckers after the spawning run in late spring and summer when they haunt deep pools and shallows next to deeper water.

Suckers, buffaloes, and redhorses all have small mouths, so you should use No. 6 or smaller hooks. If you are after buffalo, stout hooks are in order. A big buffalo can straighten out a light wire hook. Night crawlers are excellent bait for these fish.



**QUILLBACK RECORD:** 2 lbs, 12 oz

## CARP

Technically, carp are large members of the minnow family, but their overgrowth is spectacular and some species have become invasive. Missouri's alternative-methods record bighead carp, snagged at Lake of the Ozarks in 2011, tipped the scales at 106 pounds. The Conservation Department also keeps pole-and-line records on bighead, common, and grass carp. Each of these species is capable of testing heavy tackle and the person wielding it.

Bighead carp are filter-feeders, eating only plankton and stray bits of organic matter. Consequently, the only effective way to target them is snagging with treble hooks. Snagging bighead carp is easiest in the summertime when they form schools in the lower reaches of streams that feed the Missouri and Mississippi rivers.

The most popular bait for common carp is dough balls concocted from some combination of corn flakes, corn-meal, oatmeal, flour, and peanut butter. Dozens of recipes are available online.

Grass carp are my personal favorite of this group, partly because of their predictability and partly because of their size and strength. The pole-and-line record stands at 69

pounds, and even a 10-pound grass carp can strip 100 feet of line off your reel in less time than it takes you to say, "H-h-h-holy cow!"

To catch grass carp, check with a conservation agent or fisheries biologist to identify public lakes that have them and that allow chumming (some don't). Next, fill two or three milk jugs with cracked corn. Add water, and let it ferment for a few days. Scatter fermented corn in the shallowest part of your chosen lake for two days before you plan to fish. On the third day, you will find grass carp looking for more corn in the baited area.

Use a slip-sinker rig with a stiff, No. 4 bait-holder hook. Cover the hook with canned whole-kernel corn or slip the hook inside a cherry tomato, and toss it into the baited area, then set your reel to free spool. When line begins to payout, wait until it stops, then starts again. That's the time to set the hook and hold on for dear life.

Grass carp have grinding teeth at the back of their throats that can chew through monofilament line. Braided line is tougher than monofilament and is less likely to be felt by the fish. I recommend 20- or 30-pound line.



**BIGHEAD CARP RECORD:** 80 lbs, 0 oz



**COMMON CARP RECORD:** 50 lbs, 6 oz



**BIGMOUTH BUFFALO RECORD:** 56 lbs, 0 oz



**BLACK BUFFALO RECORD:** 53 lbs, 0 oz



**SMALLMOUTH BUFFALO RECORD:** 36 lbs, 12 oz

Your chances of catching common or grass carp are best early and late in the day. It is important to not let the fish feel any tension on the line until you are ready to set the hook. They will spit out food at the slightest hint of treachery.

Big carp fight long and hard, so you want a medium-weight fishing rod at least 7 feet long to help absorb the stress of fast, hard runs. Make sure your reel holds at least 150 yards of line, and set your drag light enough to prevent break-offs during lightning-fast runs.



**GRASS CARP RECORD:** 69 lbs, 0 oz



**BLACK REDHORSE RECORD:** 1 lb, 8 oz



**GOLDEN REDHORSE RECORD:** 5 lbs, 1 oz



**RIVER REDHORSE RECORD:** 9 lbs, 13 oz



**SHORthead REDHORSE RECORD:** 2 lbs, 14 oz



**SILVER REDHORSE RECORD:** 5 lbs, 10 oz

Note: Record weights shown here are for pole and line only, and do not include records held for alternative methods.

## HERRINGS

Only two species in this group — the skipjack herring and gizzard shad — are common and large enough to be on Missouri's fishing records list. Their flesh is bony, oily, and flavorless, but they make superb live or cut bait for catfish.

Skipjacks can exceed 20 inches and 3 pounds. These schooling, migratory fish are most common in the Mississippi River south of the mouth of the Ohio River. However, schools of skipjacks occasionally visit the Current River and the Osage, Meramec, and other major tributaries of the Mississippi and Missouri rivers.

Minnows and other small fish make up the bulk of skipjacks' diet. They often congregate below dams or in the swirling eddies around major river junctions. Sometimes they join white bass in feeding schools. If you find "skippers" feeding near the surface, tie two or three jigs on your line and cast into the melee. You will often bring back as many skipjacks as you have hooks. When hooked, they leap and skip along the surface, as their name implies.



**SKIPJACK HERRING RECORD:** 2 lbs, 5 oz

The gizzard shad is similar in appearance and size to the skipjack. It is named for the muscular stomach that grinds up algae and tiny insect larvae that it eats. The gizzard shad is found in streams statewide. However, its food preference makes it difficult to catch on hook and line.

## MOONEYES

Mooneyes and goldeyes are the only two species of this family found in Missouri. They look similar to gizzard shad, but with larger heads and eyes. Goldeyes are larger than mooneyes — up to 14 inches — and have gold-colored eyes, while the mooneye's iris is mostly silver. Both species inhabit the Missouri and Mississippi rivers and their larger tributaries. However, mooneyes are uncommon outside of southeast Missouri. Smoked mooneye is considered a delicacy in Canada.

Both species are sight feeders on insects and other small animals. Their huge eyes allow them to see in low light, and most of their feeding is done between dusk and dawn, often at the surface. These feeding habits make fly-fishing an effective and sporty way to catch either species. Streamers and woolly bugger flies work well. So do inline spinners and jigs. Look for them in 1 to 6 feet of water along riprapped banks on the Missouri River. They are common from the mouth of the Osage River to the old



**MOONEYE RECORD:** 0 lbs, 13 oz



**GOLDEYE RECORD:** 2 lbs, 0 oz

lock and dam just upstream from the Mari-Osa Access.

If you find a mulberry tree dropping its fruits into the water, you are likely to find goldeyes, skipjacks, and various carp slurping them down. Bait your hook with this natural "hatch," or drop a black, mulberry-sized popping bug into the feeding zone. You might also hook a catfish this way.



**GIZZARD SHAD RECORD:** 2 lbs, 2 oz



**FRESHWATER DRUM RECORD:** 40 lbs, 8 oz

## FRESHWATER DRUM

This fish is the only member of its family in Missouri. It is closely related to the red drum that inhabits the Gulf of Mexico and is fine table fare. Adults generally weigh 1 or 2 pounds, but the state pole-and-line record, caught at Lake of the Ozarks in 1980, weighed 40 pounds, 8 ounces.

Drum are common in larger streams and reservoirs statewide, but they also turn up in smaller tributaries.

Fish, crayfish, and insects make up the bulk of drum food. They occasionally bite on artificial lures, but their bottom-feeding habit makes bait fishing the most productive strategy. Worms, crayfish, or minnows all are good drum bait.

Drum prefer deep water. On lakes, look for them 10 to 40 feet deep around creek mouths, submerged creek channels, and riprap banks adjacent to deep water. On rivers, look for them behind wing dikes, eddies, and deep pools near sandbars, and in dam tail waters.

Drum are school fish, so if you catch one, keep fishing where you are. Chances are good that you will catch several more.



### Rigging for Niche Fish

When fishing with worms or other natural bait, it pays to remember three things:

- ① Use enough weight to keep your bait on or near the bottom.
- ② Use a slip-sinker rig to allow the fish to take the bait without resistance.
- ③ Use a barrel swivel above the bait so your bait can spin in the current without twisting your line.

### Find Your Niche

You don't have to give up bass, bluegill, crappie, and trout to enjoy niche fishing. But give these nongame species a try if you find yourself in the mood for something different, or if you want to feel something bigger than a bass on the end of your line — say, a 30-pound drum. ▲

*Jim Low has more time for fishing since retiring from his job as the Conservation Department's news services coordinator in 2015. He is game for any kind of fishing, whether it involves game fish or not.*

## Opossum

AN OPOSSUM (*Didelphis virginiana*) approached my photography hide just as I finished a candy bar for breakfast. I watched through my lens as it closed the distance of about 100 yards, stopping every few seconds, its pinkish nose in the air, to pinpoint my location. As with other animals I've photographed, especially skunks, I fretted that it might soon be in my lap. Fortunately, the gray-and-white mammal with its slender snout, papery ears, and glossy black eyes stopped less than a foot short of my position and waited for the source of food to reveal itself. A twitch of my boot and a softly spoken "shoo" sent it along its way.

Opossums are somewhat misunderstood because of their appearance, including a toothy, drooling snarl (see inset), coarse fur, and an unattractive rat-like tail. When approached, opossums typically retreat at a fast walk, in search of cover or a tree to climb. If approached too closely, opossums may go into shock and appear dead. Of course, this is where the phrase "playing possum" originated.

Opossums are found throughout Missouri in a variety of habitats, but they prefer wooded areas, especially near streams. They make their homes in shelters such as fallen logs, hollow trees, and brush piles. Opossums typically line their nests with leaves and grass. I've been fortunate to observe one carrying a bundle of leaves in a loop formed with its tail. According to *The Wild Mammals of Missouri*, an opossum can transfer 12 mouthfuls of leaves to its tail for transport to its nest.

Opossums eat a variety of foods but prefer animal matter, including many different insects and carrion of rabbits, squirrels, mice, and other animals. Reptiles, amphibians, crayfish, birds and bird eggs, and earthworms are also eaten. Fruits are eaten particularly in fall and early winter and include pokeberry, grapes, persimmons, pawpaws, and more. Opossums are also known to scavenge food from unsecured garbage cans and will occasionally raid a chicken yard. In my experience, opossums are far less injurious to poultry than raccoons.

Opossums are Missouri's only marsupials, or pouched mammals. Females possess a fur-lined pouch on the belly where incompletely formed young are carried as they develop. As the young mature, they eventually leave the pouch but continue to hitch a ride on mama by holding on to the coarse hairs of her neck and back. Young are weaned by May and a second litter is sometimes raised after that. I recently spotted a mother opossum with a single, large youngster riding on her back. Perhaps it was the runt of the litter and the last to go off on its own.

The opossum is a common commercial furbearer in Missouri, and it is also hunted for its flesh. Opossums are typically pursued at night by hunters with hounds, similar to raccoon hunting, and baked opossum is considered a delicacy by some. Beneficial in many ways, and rarely harmful, the opossum is a stalwart contributor to Missouri's ecosystem.

—Story and photograph by Danny Brown

📷 (main) 500mm lens • f/7.1 • 1/80 sec • ISO 400

📷 (inset) 300mm lens • f/5.6 • 1/400 sec • ISO 400



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## Fountain Grove Conservation Area

*This vast, 7,906-acre area boasts diverse habitats and activities, from wetlands, woodlands, and fishing holes to hunting, fishing, and birdwatching.*

DURING THE MONTH of November, Fountain Grove Conservation Area offers some of the state's best hunting, fishing, and wildlife-watching opportunities. The area features 2,800 acres of diverse moist-soil plant communities, which attract several species of wetland-dependent wildlife, and the diverse ecotype of this region provides food, shelter, reproduction, and rearing needs for all types of fish and wildlife.

The area is known as a popular stopover for waterfowl migrating along the Mississippi flyway, and for its high-quality waterfowl hunting. The area offers 25 waterfowl blinds, 17 wade-and-shoot units, and one ADA blind, which are allocated daily through the managed waterfowl drawing. Hunters have access to a variety of wetland habitats on the area, including flooded timber oxbows, annual moist-soil vegetation, perennial vegetation, shrub-scrub habitat, or agricultural units. Deer hunting is by archery methods only and the area offers enjoyable hunts on a diverse landscape with hardwood timber, agricultural fields, and food plots of beans, legumes, and winter wheat.

Wetland management covers 2,814 total acres and encompasses a wide variety of practices and habitat types to attract waterfowl for hunters and bird watchers alike. During the fall, visitors will see bald eagles, Canada geese, and most duck species. The Mike Milonski Wetland Complex is managed intensively for migrating waterfowl by using a variety of moist-soil management techniques and agricultural crops. The Jeff Churan Wetland Complex consists of bottomland forest, moist soil,



70–200mm lens • f/16 • 1/80 sec • ISO 400 | by Noppadol Paothong

shrub-scrub, and emergent marsh habitats for migratory waterfowl. These habitats provide a broad range of wetland-dependent species for wildlife viewing, including waterfowl, secretive marsh birds, shorebirds, fish, and wetland mammals.

The non-wetland portions of the area are managed to provide quality habitat for all wildlife and to offer the public quality hunting and fishing opportunities. Upland habitats of warm-season grass fields, native annual vegetation, legumes, and food plots are intertwined with shrub thickets for quality rabbit, quail, deer, turkey, and songbird habitat. Several fields of sunflowers also offer wildlife viewing and dove hunting opportunities.

Fountain Grove is located in Linn and Livingston counties in north-central Missouri. Initially acquired in 1947–1948, Fountain Grove was a 3,433-acre area purchased by Pittman-Robertson funds to provide habitat for migratory waterfowl and duck hunting opportunities to the general public. Three large additions have been made to Fountain Grove since its initial purchase.

—Bryan Anderson, area manager



### Fountain Grove Conservation Area

**Recreation Opportunities:** Waterfowl, deer, and small game hunting; fishing; birding; wildlife viewing

**Unique Features:** 160-acre Che-Ru Lake with ADA accessible fishing dock, boat ramp and restroom; 30-acre Jo Shelby Lake with fishing jetties, boat ramp, primitive camping areas, and restrooms

**For More Information:** Call 660-646-6122 or visit [mdc.mo.gov/a4601](http://mdc.mo.gov/a4601)



# MDC DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit [mdc.mo.gov](http://mdc.mo.gov) and choose your region.

## WHO HOWLED?

**NOV. 3 • THURSDAY • 6–8:30 P.M.**

*Central Region, Runge Conservation Nature Center, 330 Commerce Drive, Jefferson City, MO 65109*

*No registration required, call 573-526-5544 for more information*

*All ages*

Join us to hear Department Wildlife Damage Biologist and Missouri wildlife expert Tom Meister and the Endangered Wolf Center's carnivore biologist and Director of Animal Care and Conservation Regina Mossotti and Director of Education Ashley Reardon share fascinating information on the latest research, and findings on wolves.

## WOMEN'S HIKE

**NOV. 5 • SATURDAY • 9 A.M.–12:30 P.M.**

*Southeast Region, Cape Girardeau Conservation Nature Center, 2289 County Park Drive, Cape Girardeau, MO 63701*  
*Registration required, call 573-290-5218 beginning Oct. 15*

*Ages 14 and older, 14–17 must be accompanied by an adult*

Enjoy the crisp air on a 3-mile hike at General Watkins Conservation Area. We'll see American beech mixed in among the trees along the ridge, and might even see a few other rare plants. The hike is rated as moderate. This program is for women only.

## TREE PRUNING WORKSHOP

**NOV. 15 • TUESDAY • 6:30–8 P.M.**

*Southwest Region, Wildcat Glades Conservation & Audubon Center, 201 W Riviera Dr., Joplin, MO 64804*

*Registration required, call 417-629-3423*

*Ages 16–adult*

Properly guiding a young tree with pruning will help it develop a desirable shape and improve long-term health. Classes will cover basic tree biology, why to prune trees, and proper pruning techniques.

## TURKEYTREK HIKE

**NOV. 19 • SATURDAY • 1–3 P.M.**

*St. Louis Region, Rockwoods Reservation, 2751 Glencoe Road, Wildwood, MO 63038*

*Reservations required, call 636-458-2236 beginning Nov. 4 through Nov. 17*

*All ages, families*

Join us for an invigorating mid-November hike of the 2-mile Turkey Ridge Trail. As we progress along the trail, we will talk about the habitat, food, habits, and calls of wild turkeys, and if we are lucky, we may see one.

# 6

## IDEAS FOR FAMILY FUN

## NATURE'S ORNAMENTS

**NOV. 26 • SATURDAY • 10 A.M.–12 P.M.**

*Ozark Region, Twin Pines Conservation Education Center, RT 1 Box 1998, Winona, MO 65588*

*Registration required, call 573-325-1381*

*All ages, families*

Decorate your tree this year with ornaments made from natural objects gathered in Missouri's forests.

## SOARING EAGLES

**NOV. 26 • SATURDAY • 1–3 P.M.**

*Kansas City Region, Burr Oak Woods Conservation Nature Center, 1401 NW Park Road, Blue Springs, MO 64015*

*No registration required*

*All ages*

Some bald eagles stay in Missouri year-round, but many more come into our area during the cold winter months to find food. Join us to learn more about this powerful force of nature.





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## I Am Conservation

"Our family experienced a wonderful transition over the past nine years thanks to a program provided by the Missouri Department of Conservation," said Dan Applebaum, patriarch of the Appelbaum family, all pictured here, front row, left to right: Caroline, Madeleine, Dan, Maddie, Luke; back row, left to right: Daniel, John. "My oldest son, Daniel, now 22, was asked by a friend to attend a hunter safety course when he was 13 years old," said Dan. "After successfully completing the week-long course during that summer, he announced to me that he would like to deer hunt. I had never hunted in my life. I told him, 'Sorry, but you have the wrong dad for that.'" Then a coworker of Dan's offered to take him and his son hunting on his property, and that began a nine-year immersion in all things hunting for the family. They purchased hunting gear, participated in more hunts, and eventually invested in a piece of hunting property. "To date, since my first son took the hunter safety course, 14 other relatives have taken the course and several of the girls in the family have joined in," said Dan. "Hunting has permeated many aspects of our lives and now even our menus have changed. We have also grown in knowledge about conservation and wildlife habitat management. We have been blessed to be able to pass it on to so many, and I pray that more hunters will share these wonderful experiences with others." —*photograph by David Stonner*